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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,251	02/07/2002	Steven D. MacLean	81635APRC	3271

7590 09/21/2005

Thomas H. Close
 Patent Legal Staff
 Eastman Kodak Company
 343 State Street
 Rochester, NY 14650-2201

EXAMINER

HERNANDEZ, NELSON D

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,251

Applicant(s)

MACLEAN ET AL.

Examiner

Nelson D. Hernandez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 2 is/are allowed.
- 6) ☒ Claim(s) 4 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Examiner acknowledges amendments made on claims received on July 5, 2005. Claims 1 and 4 have been amended. Claims 3 and 5-10 have been cancelled. Claim 11 has been newly added.

Specification

2. Examiner acknowledges the changes made on the Specifications. Changes made are accepted.

Claim Objections

3. **Claim 11** is objected to because of the following informalities: in line 6, the word "calculated" should be written as "calculating". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mihara, US Patent 6,088,059 in view of Oda, US Patent 6,831,692 B1.**

Regarding claim 4, Mihara discloses a method for improving the highlight reproduction of an imaging system (Fig. 1), comprising: identifying highlight regions in the image (Col. 4, lines 1-24; col. 7, line 11 – col. 8, line 55); calculating flare intensity values for the image an equation that is function of the distance from at least one

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highlight region (In col. 11, lines 1-45 and col. 15, line 32 – col. 16, line 12, Mihara teaches multiplying a coefficient for each flare intensity based on the displacement for each point where the flare intensity is calculated and then subtracting the resulting product from the image signal; see also col. 7, line 11 – col. 8, line 55); and subtracting the flare intensity values from the image (Col. 7, line 58 – col. 8, line 55). Mihara does not explicitly disclose providing a multi-channel image of a multimode image sensor.

However, Oda teaches a multi-mode image sensor (Fig. 1: 14) having an array of light sensitive elements (See photosensitive cells fig. 1: 14), wherein the sensor provides an output signal derived from the array, and wherein the output signal has a transfer function that includes a normal sensitivity region (Output by photosensitive cells S_L in fig 1) and a highlight sensitivity region (Output by photosensitive cells S_H in fig. 1), wherein said outputs are used to adjust the saturation level to a constant value so as to increase the dynamic range of the image pickup apparatus (Col. 4, lines 11-67; col. 5, lines 1-25; col. 7, lines 24-42; col. 8, lines 1-50).

Therefore, taking the combined teaching of Mihara in view of Oda as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mihara by providing a multi-channel image of a scene using a multimode image sensor having an array of light sensitive elements, wherein the sensor provides an output signal derived from the array, and wherein the output signal has a transfer function that includes a normal sensitivity region and a highlight sensitivity region. The motivation to do so would help to adjust the saturation level to a constant

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value so as to increase the dynamic range of the image pickup apparatus as suggested by Oda (Col. 8, lines 1-50).

Regarding claim 11, Mihara discloses a method for improving the highlight reproduction of an imaging system (Fig. 1), comprising: identifying highlight regions in the image (Col. 4, lines 1-24; col. 7, line 11 – col. 8, line 55); calculating flare intensity values for the image an equation that is a sum of the functions of the distances from a plurality of highlight regions (In col. 11, lines 1-45 and col. 15, line 32 – col. 16, line 12, Mihara teaches multiplying a coefficient for each flare intensity based on the displacement for each point where the flare intensity is calculated and then subtracting the resulting product from the image signal; see also col. 7, line 11 – col. 8, line 55); and subtracting the flare intensity values from the image (Col. 7, line 58 – col. 8, line 55). Mihara does not explicitly disclose providing a multi-channel image of a multimode image sensor.

However, Oda teaches a multi-mode image sensor (Fig. 1: 14) having an array of light sensitive elements (See photosensitive cells fig. 1: 14), wherein the sensor provides an output signal derived from the array, and wherein the output signal has a transfer function that includes a normal sensitivity region (Output by photosensitive cells S_L in fig 1) and a highlight sensitivity region (Output by photosensitive cells S_H in fig. 1), wherein said outputs are used to adjust the saturation level to a constant value so as to increase the dynamic range of the image pickup apparatus (Col. 4, lines 11-67; col. 5, lines 1-25; col. 7, lines 24-42; col. 8, lines 1-50).

Therefore, taking the combined teaching of Mihara in view of Oda as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mihara by providing a multi-channel image of a scene using a multi-mode image sensor having an array of light sensitive elements, wherein the sensor provides an output signal derived from the array, and wherein the output signal has a transfer function that includes a normal sensitivity region and a highlight sensitivity region. The motivation to do so would help to adjust the saturation level to a constant value so as to increase the dynamic range of the image pickup apparatus as suggested by Oda (Col. 8, lines 1-50).

Allowable Subject Matter

6. **Claims 1 and 2** are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the lookup table has an output to provide a same cluster identifier for each of the plurality of particular light sensitive elements.

Mihara discloses a method for improving the highlight reproduction of an imaging system (Fig. 1), comprising: identifying highlight regions in the image (Col. 4, lines 1-24; col. 7, line 11 – col. 8, line 55); calculating flare intensity values for the image an equation that is function of the distance from at least one highlight region (In col. 11, lines 1-45 and col. 15, line 32 – col. 16, line 12, Mihara teaches multiplying a coefficient

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for each flare intensity based on the displacement for each point where the flare intensity is calculated and then subtracting the resulting product from the image signal; see also col. 7, line 11 – col. 8, line 55); and subtracting the flare intensity values from the image (Col. 7, line 58 – col. 8, line 55).

Oda teaches a multi-mode image sensor (Fig. 1: 14) having an array of light sensitive elements (See photosensitive cells fig. 1: 14), wherein the sensor provides an output signal derived from the array, and wherein the output signal has a transfer function that includes a normal sensitivity region (Output by photosensitive cells S_L in fig 1) and a highlight sensitivity region (Output by photosensitive cells S_H in fig. 1), wherein said outputs are used to adjust the saturation level to a constant value so as to increase the dynamic range of the image pickup apparatus (Col. 4, lines 11-67; col. 5, lines 1-25; col. 7, lines 24-42; col. 8, lines 1-50).

However, the teaching of Mihara and Oda, either alone or in combination, fails to teach or reasonably suggest that the lookup table has an output to provide a same cluster identifier for each of the plurality of particular light sensitive elements.

Conclusion

Because a new ground for rejection is being applied to substantively unamended claims, this action will be **NON-FINAL**.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:00 A.M. to 5:30 P.M..

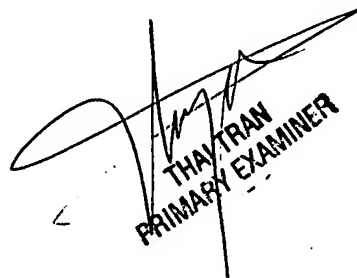
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571) 272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson D. Hernandez
Examiner
Art Unit 2612

September 15, 2005


THAI TRAN
PRIMARY EXAMINER